Increased Pathological Worry Levels in Patients with Alopecia Areata

Alopesi Areata Tanılı Hastalarda Patolojik Anksiyete Düzeylerinin Değerlendirilmesi

Başak Şahin[1], Esra Akyol Soydaş[2], Sevilay Oğuz[3], Selda Işık[3], Hulya Ertekın[1]
[1]Department of Psychiatry, Çanakkale Onsekiz Mart University, Faculty of Medicine, Çanakkale,
[2]Deparment of Psychiatry, Yenimahalle Education and Research Hospital, Ankara,
[3]Department of Dermatology, Çanakkale Onsekiz Mart University, Faculty of Medicine, Çanakkale, Turkey

Özet

Amaç: Alopesi areata(AA) çeşitli psikiyatrik bozukluklarla ilişkilendirilen saç kaybı ile seyreden dermatolojik hastalıklardan biridir. Bu çalışmada patolojik anksiyete düzeylerinin alopesi areata ve sağlıklı kontrol grubunda farklı olup olmadığı araştırıldı. Gereç ve Yöntem: 63 AA tanılı hasta, 90 sağlıklı kontrol katılımcı çalışmaya dahil edilme ve çalışmadan dışlanma kriterleri göz önüne alınarak çalışmaya alındı. Sosyodemografik ve klinik özelliklerin kaydedildiği veri formu ile Penn State Worry Questionnaire (PSWQ) Penn State Patolojik Anksiyete Ölçeği tüm katılımcılara uygulandı. Bulgular: Cinsiyet dışındaki sosyodemografik özelliklerin benzer olduğu tespit edildi. AAlı grupta AA hastalığının aile öyküsü anlamlı şekilde yüksek bulundu. AAlı grupta ortalama PSWQ 44.02 ± 11.59 iken sağlıklı control grubunda 39.71 ± 7.77 idi. AAlı grupta ortalama PSWQ skorlarının istatistiksel olarak anlamlı şekilde yüksek olduğu belirlendi (t=-3.27, p= 0.001). Tartışma: Bu çalışma AA ve sağlıklı kontrollerin patolojik anksiyete açısından karşılaştırıldığı ilk çalışmadır. AA lı hastaların yaşam kalitelerinin arttırılmasında patolojik anksiyetenin araştırılmasının etkili olacağını düşünüyoruz. Ayrıca PSWQ anksiyete bozuklukları geliştirebilecek hastaların saptanmasında iyi bir araç olabilir.

Anahtar Kelimeler

Alopesi Areata; Anksiyete; Patolojik

Abstract

Aim: Alopecia Areata (AA) is a type of hair loss that has been considered to have associations with various psychiatric disorders. In this study, we aimed to compare pathological worry levels between patients with AA and healthy controls (HC). Material and Method: Sixty-three patients with AA and 90 HCs were included in the present study after applying inclusion and exclusion criteria. The socio-demographic characteristics, some clinical characteristics, and the scores from the Penn State Worry Questionnaire (PSWQ) were compared between groups. Results: The demographic characteristics were found to be similar between groups except for gender. The family history of AA was significantly higher in the AA group. The mean score of PSWQ in the AA group was 44.02 ± 11.59, compared to 39.71 ± 7.77 in the HC group. The mean score of PSWQ was significantly higher in the AA group (t=-3.27, p= 0.001). Discussion: The present study is the first to compare pathological worry between patients with AA and HCs. We suggest that pathological worry should be more thoroughly investigated in patients with AA to improve their quality of life. Also, this can be an effective approach to targeting the patients who may develop anxiety disorder.

Keywords

Alopecia Areata; Worry; Pathological; Association

DOI: 10.4328/JCAM.4527 Received: 03.04.2016 Accepted: 06.05.2016 Printed: 01.01.2017 J Clin Anal Med 2017;8(1): 10-3
Corresponding Author: Esra Akyol Soydaş, Psikiyatri Poliklinigi, Yenimahalle Egitim ve Arastırma Hastanesi, Batıkent, Ankara, Turkey.
E-Mail: esra_akyol@hotmail.com

Introduction

Alopecia Areata (AA) is a type of hair loss that is commonly asymptomatic, well restricted, and does not cause scars [1]. AA can present in any part of the body that has hair follicles. The prevalence of AA has been estimated as 0.2% in the population, with a lifetime incidence of about 2.1%. AA usually develops during the second or fourth decades of life. However, it can be seen in all age groups, including the pediatric population [1,2]. The exact etiology of AA is still unclear; genetic, environmental and immunological factors are considered to have roles in the etiopathogenesis of AA [3,4,5]. In histopathology, T cell infiltration of hair follicles has been found. Because the exact mechanism of AA etiology is not precisely known, the treatment may simply be topical. If needed, systemic treatment can be administered.

Stress is considered to be the most common environmental factor contributing to AA; however, the results of studies seem to be conflicting [6,7,8,9,10]. Increased levels of anxiety, aggression, and depressive mood have been reported in patients with AA [11,12]. In an experimental animal study, the rats with AA were found to have distorted hypothalamic-pituitary-adrenal (HPA) axis response to stressful stimuli [13]. A comorbidity of psychiatric disorders as high as 74% was reported in one study; however, there has been not any study confirming this high psychiatric comorbidity specifically in patients with AA [14]. Studies that research personality traits in patients with AA have failed to find any distinct personality traits in patients with AA compared with healthy subjects [15,16].

Although there have been studies reporting increased anxiety levels in patients with AA, as mentioned above, there have been no studies that researched pathological worry in patients with AA. In the present study, we aimed to compare pathological worry between patients with AA and healthy controls (HC) and to investigate the associations between pathological worry and the demographic and clinical properties of patients with AA.

Material and Method

Participants and Procedure

The study was conducted in Çanakkale Onsekiz Mart University Faculty of Medicine, Department of Psychiatry and Dermatology from January 2015 to January 2016. The patients admitted to the dermatology clinic and diagnosed with AA were included in the study. The inclusion criteria were as follows: diagnosed with AA, aged 18-60, willingness to participate in the study. The exclusion criteria were: younger than 18 or older than 60, diagnosed with a dermatological disease other than AA, having a current or previous psychiatric disorder, not willing to participate in the study. After applying the inclusion and exclusion criteria, 63 patients were enrolled in the study. Additionally, 90 HCs were enrolled in the study. All patients and HCs gave informed consent to be included in the study. The study was approved by the Çanakkale Onsekiz Mart University Faculty of Medicine ethical committee. Both patients and HC were assessed using the Penn State Worry Questionnaire and a form inquiring about demographic and clinical characteristics.

Instruments

Demographical and Clinical Form

This form was created by the authors according to the studies in the literature. The form asks about demographic characteristics such as age, gender, marital status, and educational status. The clinical characteristics are family history of psychiatric disorders and AA, age of onset of AA, duration of AA, percentage of affected area, pattern of hair loss, involvement of body hair, involvement of nail, existence of remission, numbers of attacks, and existence of nevus flammeus.

Penn State Worry Questionnaire (PSWQ)

The Penn State Worry Questionnaire (PSWQ) measures pathological worries with excessive, chronic, and uncontrollable features. It is a 16-item self-report measure consisting of statements about worry (e.g., "Once I start worrying, I can't stop"), each with a 5-point answer scale ranging from 1 (not at all typical of me) to 5 (very typical of me). The total score ranges from 16 to 80, with higher scores indicating greater worry levels. The scale was created by Meyer et al. [17] and it has been reported to be valid and reliable in the Turkish language [18].

Statistical Analysis

The data obtained was evaluated by the Statistical Package for the Social Sciences-PC version 18.0 (SPSS, IBM, New York). A confidence interval (CI) of 95% and a 2-tailed P value less than 0.05 were considered to be statistically significant. All numerical variables were tested by the Kolmogorov-Smirnov test for normality of distribution. Levene's test was used for homogeneity of variance of variables. The categorical variables such as gender, marital status, and family history of psychiatric disorders and AA were compared by x2 test. The numerical variables such as age, duration of education, and PSWQ score were noted as mean ± SD and differences were compared with T test. The clinical characteristics of the AA group such as percentage of affected area, pattern of hair loss, involvement of body hair, involvement of nails, existence of remission, and existence of nevus flammeus were presented as percentages whereas age of onset of AA, the duration of AA, and number of attacks were noted as mean ± SD. A linear regression model was constructed between the PSWQ score and mean age, mean year of education, duration of AA, and age of onset of AA.

Results

The total numbers of participants was 153. There were 63 (40.9%) patients with AA and 90 (59.1%) HCs. The mean age of participants was 29.09 ± 9.71 years. 69 participants were female (44.5%) and 84 were male (55.5%). The mean years of education of participants was 9.88 ± 4.08 years. A family history of psychiatric disorders was present in 14 participants (9.1%), while 139 participants had no family history of psychiatric disorders (90.9%). 13 participants had a family history of AA (8.4%) and 153 participants did not (91.6%).

17 patients had 0 % hair loss (27%), 34 patients had 25% hair loss (54%), 8 patients had 26-49% hair loss (12.7%), 3 patients had 50-74% hair loss (4.8%), and 1 patient had 75-99% hair loss (1.6%). 15 patients did not have a specific pattern of hair loss (23.8%), while the pattern was patch in 36 patients (57.1%), ophiasis in 4 patients (6.3%), and patch plus ophiasis

in 8 patients (12.7%). The body hair involvement was absent in 30 patients (47.6%), while 22 patients had beard involvement (34.9), 7 patients had eyebrow involvement (11.1%), 1 patient had beard plus eyebrow involvement (1.6%), and 3 patients had involvement of other body parts (4.8%). There was ear involvement in 4 patients (6.3%) and no ear involvement in 59 patients (93.7%). 43 patients had experienced no remission of AA (68.3%) and 20 patients had experienced remission of AA (31.7%). The mean duration of AA was 5.01 ± 2.26 years and the mean age of onset of AA was 34.21± 8.92 years.

The numbers of females were 19 (30.2 %) and 50 (55.6%) in the AA and HC groups, respectively. 44 (69.8%) of the AA group and 40 (54.6%) of HC group were male. There was a significant difference in terms of gender (x2=9.56, p= 0.002). The mean age was 30.01 ± 10.66 years in the AA group and 28.46 ± 11.59 in the HC group. The mean age was similar between the AA and HC groups (t=0.96, p= 0.33). The mean duration of education was 9.33 ± 5.52 years and 10.01 ± 4.47 in the AA and HC groups, respectively. The mean duration of education was found to be similar between groups (t=1.36, p= 0.29). Eight patients (12.7%) and 6 HCs (6.7%) had a family history of psychiatric disorder. The ratio of family history of psychiatric disorders was similar between groups (x2=1.62, p= 0.16). Twelve patients had a family history of AA (19.00%) and HC was a family history of AA. The family history of AA was significantly different between groups (p<0.001). The mean PSWA score in the AA group was 44.02 ± 11.59, while it was 39.71 ± 7.77 in the HC group. The mean PSWQ score was significantly higher in the AA group (t=-3.27, p= 0.001) (Table 1).

A regression analysis was performed to identify associations between mean PSWQ score and mean age, mean year of education, duration of AA, and age of onset of AA. There was not a significant association between mean PSWQ score and mean age, mean year of education, duration of AA, or age of onset of AA (respectively, un-standardized β= 0.203 ± 0.312, p=0.51; un-standardized β= -0.600 ± 0.292, p=0.06; un-standardized β= 0.264 ± 0.321, p=0.85, un-standardized β= -0.122± 0.319, p=0.70) (Table 2).

Table 1. Sociodemographic and clinical characteristics of participants, , AA: Alopecia Areata, HC: Healthy controls, PSWS: Penn State Worry Questionnaire, Significant P values predicted in bold character.

		AA (N=63)	HC (N=90)	Statistic
Age (years)		30.01 ± 10.66	28.46 ± 11.59	t=0.96, p= 0.33
Gender				
	Female	19 (30.2 %)	50 (55.6%)	X2=9.56, p= 0.002
	Male	44 (69.8%)	40 (54.6%)	
Education (years)		9.33 ± 5.52	10.01 ± 4.47	t=1.36, p= 0.29
Family History of Psychiatric Disorders				
	Yes	8 (12.7%)	6 (6.7%)	X2=1.62, p= 0.16
	No	55 (86.3%)	84 (93.3%)	
Family History of AA				
	Yes	12 (19.00%)	1 (0.01%)	p<0.001 *
	No	51(81.00%)	90 (99.9%)	
PSWQ		44.02 ± 11.59	39.71 ± 7.77	t=-3.27, p= 0.001

* Fischer Exact Test

Table 2. Linear regression analysis PSWQ and mean age, mean year of education, duration of AA, age of onset of AA. AA: Alopecia Areata

	Unstandardized Coefficients		P values
	B	Std.Error	
Mean age	0.203	0.312	0.51
Mean year of education	0.600	0.292	0.06
Duration of	0.264	0.321	0.85
Age of onset of AA	-0.122	0.319	0.70

Discussion

Psychodermatology investigates the relationship between psychiatric disorders and dermatological diseases. AA is one of the most-investigated diseases in the psychodermatology field. AA causes significant problems in the appearance of individuals. As a result, patients with AA may develop psychiatric conditions because of emotional stress [7,19]. Furthermore, emotional stress is one of the most important environmental etiological factors for AA [6].

AA is considered to be associated with psychiatric disorders, specifically with anxiety and depression. Studies generally investigate anxiety and depression together in patients with AA [19]. In a nationwide study, Chu et al. [20] investigated 5,117 patients with AA and healthy subjects; they reported higher levels of anxiety and depression in patients with AA compared with healthy subjects. Similarly, Aghaei et al. [21] reported that patients with AA had higher levels of anxiety and depression compared with healthy subjects. In their retrospective study, Huang et al. [22] reported that 25.5 % of AA patients had a comorbid anxiety or depressive disorder. Based on these studies, it can be considered that AA may be strongly associated with anxiety and depression.

Borkevic et al. [23] define worry as "an attempt to engage in mental problem-solving on an issue whose outcome is uncertain but contains the possibility of one or more negative outcomes." Worry can be regarded as a mental coping process in which the outcome is ambiguous but most likely includes one or more negative outcomes. As a result, worry becomes a fear process. When worry becomes uncontrolled, it may affect the quality of life negatively and it can result in an anxiety disorder [24,25]. Furthermore, when worry becomes persistent, excessive, and generalized it can result in generalized anxiety disorder [26]. Worry does not merely cause generalized anxiety disorder; it can also be an etiological factor in panic disorder, obsessive compulsive disorder, social phobia, and specific phobias [27].

In the present study, we found that pathological worry as measured by PSWQ was significantly higher in patients with AA compared with the HC group. We can conclude two major points from this result. First, pathological worry can be an environmental risk factor for AA. Second, patients with AA may tend to develop several anxiety disorders, particularly generalized anxiety disorder. We suggest that patients with AA be screened more rigorously for pathological worry. In doing so, clinicians can improve the quality of life of patients via medical therapies and psychotherapies and decrease their risk of developing various anxiety disorders.

The present study has some limitations. First, we cannot conclusively consider pathological worry to be an etiological fac-

tor for developing AA—it can also be a result of AA. Second, although our sample size was not small, further studies with larger samples will be needed to identify the role of pathological worry. Third, the patients were not new-onset AA, another possible limitation.

In conclusion, the present study is the first to compare pathological worry between patients with AA and HCs. We suggest that pathological worry should be more thoroughly investigated in patients with AA to improve their quality of life. This can also be an effective approach to targeting those patients who may develop anxiety disorder, with the goal of prevention.

Competing interests

The authors declare that they have no competing interests.

References

1. DeBerker DAR, Messenger AG, Sinclair RD. Disorders of hair. In: Rook's textbook of dermatology, Burns DA, Breathnach SM, Cox N, Griffiths CE, eds. Vol. 4. 7th ed Oxford: Wiley- Blackwell; 2004: 63.1-63.120.
2. Safavi K. Prevalence of alopecia areata in the First National Health and Nutrition Examination Survey. Arch Dermatol 1992;128:702.
3. Norris D. Alopecia areata: current state of knowledge. J Am Acad Dermatol 2004;51:16-7.
4. Martinez-Mir A, Zlotogorski A, Ott J, Petukhova L, Mo J, Gilliam TC, et al. Genetic linkage studies in alopecia areata . J Investig Dermatol Symp Proc 2003;8:199-203.
5. Martinez-Mir A, Zlotogorski A, Gordon D, Petukhova L, Mo J,Gilliam TC, et al .Genomewide scan for linkage reveals evidence of several susceptibility loci for alopecia areata. Am J Hum Genet 2007;80:316-28.
6.Madani S, Shapiro J. Alopecia areata update. J Am Acad Dermatol 2000; 42: 549-566.
7.Gupta MA, Gupta AK, Watteel GN. Stress and alopecia areata: a psychodermatologic study. Acta Derm Venereol 1997;77: 296-8.
8. Brajac I, Tkalcic M, Dragojevic DM, Gruber F. Roles of stress, stres perception and trait-anxiety in the onset and course of alopecia areata. J Dermatol 2003;30:871-8.
9. Gulec AT, Tanriverdi N, Duru C, Saray Y, Akcali C. The role of psychological factors in alopecia areata and the impact of the disease on the quality of life. Int J Dermatol 2004;43:352-6.
10. Picardi A, Pasquini P, Cattaruzza MS, Gaetano P, Baliva G, Melchi CF, et al. Psychosomatic factors in first-onset alopecia areata. Psychosomatics 2003;44:374-81.
11.Kakourou T, Karachristou K, Chrousos G. A case series of alopecia areata in children: impact of personal and family history of stress and autoimmunity. J Eur Acad Dermatol Venereol 2007;21:356-9.
12. Liakopoulou M, Alifieraki T, Katideniou A, Kakourou T, Tselalidou E, Tsiantis J, et al. Children with alopecia areata: psychiatric symptomatology and life events. J Am Acad Child Adolesc Psychiatry 1997; 36: 678-84.
13. Zhang X, Yu M, Yu W, Weinberg J, Shapiro J, McElwee KJ. Development of alopecia areata is associated with higher central and peripheral hypothalamic-pituitary-adrenal tone in the skin graft induced C3H/HeJmouse model. J Invest Dermatol 2009;129:1527-38.
14. Colon EA, Popkin MK, Callies AL, Dessert NJ, Hordinsky MK. Lifetime prevalence of psychiatric disorders in patients with alopecia areata. Compr Psychiatry 1991;32: 245-51.
15. Carrizosa A, Estepa-Zabala B, Fernandez-Abascal B, Garcia-HernandezMJ, Ruiz-Doblado S. Alopecia areata: a specific personality? Int J Dermatol 2005;44:437-8.
16. Erfan G, Albayrak Y, Yanik ME, Oksuz O, Tasolar K, Topcu B, et al. Distinct temperament and character profiles in first onset vitiligo but not in alopecia areata. J Dermatol 2014;41(8): 709-15.
17.Meyer, TJ, Miller ML, Metzger RL, Borkovec TD. Development and validation of the Penn State Worry Questionnaire. Behaviour Research and Therapy 1990;28: 487- 95.
18. Boysan M, Keskin S, Beşiroğlu L. Assessment of hierarchical factor structure, reliability and validity of penn state worry questionnaire turkish version. Bull Clin Psychopharmacol 2008; 18(3):174-82.
19. Erfan G, Albayrak Y. The Psychiatric Aspects of Alopecia Areata. Journal of Clinical Medicine Research Updates 2014;1: 21-3.
20. Chu SY, Chen YJ, Tseng WC, Lin MW, Chen TJ, Hwang CY, Chen CC, Lee DD, Chang YT, Wang WJ, Liu HN. Psychiatric comorbidities in patients with alopecia areata in Taiwan: acase-control study. Br J Dermatol 2012; 166(3): 525-31.
21. Aghaei S, Saki N, Daneshmand E, Kardeh B. Prevalence ofpsychological disorders in patients with alopecia areata in comparison with normal subjects. ISRN Dermatol 2014;304-7.
22. Huang KP, Mullangi S, Guo Y, Qureshi AA. Autoimmune, atopic, and mental health comorbid conditions associated with alopecia areata in the United States. JAMA Dermatol 2013; 149(7): 789-94.
23. Borkovec TD, Robinson E, Pruzinsky T, DePree JA. Preliminary exploration of worry: some characteristics and processes. Behav Res Ther 1983; 21:9-16.
24. Orton GL. A comparative study of children's worries. J Psychol 1982; 110: 153-62.
25. Brown JM, O'Keeffe J, Sanders S, Baker B. Developmental changes in children's cognition to stressful and painful situation. J Pediatr Psychol 1986; 11: 343-57.
26. Erfan G, Albayrak Y, Yanık ME, Unsal C, Güneş H, Kulaç M, Kuloğlu M. Investigation of the serum brain-derived neurotrophic factor in patients with alopecia areata: a preliminary study. NYS 2014; 52(1): 12-6.
27. Brown TA, Antony MM, Barlow DH. Psychometric properties of the Penn State Worry Questionnaire in a clinical anxiety disorders sample. Behav Res Ther 1992; 30:33-7.

How to cite this article:
Şahin B, Soydaş EA, Oğuz S, Işık S, Ertekın H. Increased Pathological Worry Levels in Patients with Alopecia Areata. J Clin Anal Med 2017;8(1): 10-3.